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Access to Medical Care: Progress, Problems and Prospects

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Equity of Access to Medical Care: A Conceptual and Empirical Overview

LU ANN ADAY, PH.D., AND RONALD M. ANDERSEN, PH.D.

This paper summarizes the major ethical considerations in the conceptualization and measurement of the equity of access concept, presents national and community data on the most current profile of access in the United States, and discusses the implications of these conceptual and empirical issues. Changes in health care policy and the future of the "equity of access" objective in the U.S. are also discussed.

THE ETHICAL considerations in the conceptualization and measurement of equity of access to medical care, the current empirical profile of equity in the United States, and the implications of these conceptual and empirical issues for future health policy dealing with the "equity of access" objective are the focus points of this report.

Implicit in this objective of equity are three assumptions that serve as a starting point for examining the ethics of equity: 1) Health care is a right; 2) The resources for allocating health care are finite; 3) Health policy should be concerned with the design of "just" mechanisms for allocating scarce health care resources. These assumptions form the basis for much of the conceptual and methodological interest in equity. Selected literature dealing with these assumptions is summarized to provide an overview of the normative context from which fundamental questions regarding the "ethics" of the equity concept have emerged in recent years.

Right to Health Care

In the medical ethics literature, a great deal of attention has been devoted to examining the concept of the "right to health." Blackstone,[1] for example, explores the constitutional and moral bases for this right in terms of equal protection, minimum welfare, and other "justice" criteria. Sidel[2] and White,[3] however, point out the importance of distinguishing the "right to *health*" from the "right to *health care*." They argue that a variety of factors may contribute to health that are beyond the power of the state to ensure it as a basic "right," e.g., personal behavior that leads to ill health. The "right to health care," however, implies *access* to medical care services, which may or may not lead to "health" per se. Carlson[4] and Illich[5] argue, for example, that the modern medical care system may in fact be ineffec-

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The Community Hospital Program (CHP) access data are subject to change.

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tual or even deleterious in effecting "health" in patients who use it.

Blumstein and Zubkoff,[6] Mechanic,[7] and Sparer,[8] however, point out that in general "the right to health care" is concerned with ensuring that everyone has a right of access to services and that this right is an important normative goal of the health care system. McGarvey[9] further distinguishes the "right *to* health care" from the "right *in* health care" in that where the former is concerned with "access," the latter deals with the character of the individual interaction between the patient and the physician, once entry (access) is gained. Both are or should be proper concerns of medical ethics, but it is the right *to* medical care that is one of the most fundamental *normative* starting points for the consideration of access per se.

Finitude of Health Care Resources

Gustafson[10] argues that when the finitude of resources to satisfy human needs is realized, one's own self-interest is secured or greater attention is paid to applying principles of distributive justice for the common good. The choice between these alternatives is, in a sense, a moral one. The shortage of a desired good relative to the demand for it is expressed in the economic marketplace through high prices for that scarce resource. The finitude of resources for securing the right to health care is correspondingly visible in the rising cost of medical care, borne by individuals and society, as the demand for and price of high-technology care continue to increase.[11–13]

The recognition of the finitude of health care resources and the means for allocating them serves to establish "real world" parameters on how or whether the "moral" right or goal of access to medical care can actually be realized. Further, to the extent resources are devoted to the realization of the access goal, other health care system goals such as cost containment and quality may well be compromised. These tradeoffs are also of essential concern in understanding the ethics of health policy-making overall.

"Just" Allocation of Finite Health Care Resources

Much of the debate concerning means for assuring the "right to health care" concerns whether health care differs from other commodities purchased and consumed in the marketplace, the applicability of the "market" model to distributing health care, and the "fairness" of the various mechanisms for allocating finite health care resources.[7,12,14–16]

At the heart of considering the concept of equity of access is the question: What criteria define a "just" system of allocating this scarce resource? The relevance of variant criteria to current conceptual and methodological approaches to evaluating equity is the focus of the following section.

Conceptual and Methodological Issues in Equity of Access

A variety of approaches to defining and measuring access to medical care have appeared in the literature in recent years. Some researchers have emphasized the overall availability (supply) of services; others have focused on the characteristics of the people who may potentially avail themselves of these services, considering factors such as their income levels or insurance coverage. More recently the focus of access studies has shifted to intermediate outcome measures, such as the rates at which services are actually used or how satisfactory consumers perceive their care to be.

The authors have developed a framework for studying access to medical care that attempts to integrate these diverse approaches.[17,18] In this framework, access is defined as "those dimensions which describe the potential and actual

entry of a given population group to the health care delivery system."[19] Figure 1 shows an outline of the elements of this framework.

Further, in this model *equity* of access to care is said to exist "when services are distributed on the basis of people's need for them . . . Inequity is suggested, however, if services are distributed on the basis of demographic variables, such as race, family income, or place of residence, rather than need."[19] In terms of Figure 1, variation in the use of services as a function of the need component or associated age and sex correlates within the predisposing variables represent equity. Variation that is a function of the availability of services or how they are organized or other predisposing or enabling characteristics of the individuals themselves means that services are not equitably distributed.

In the discussion that follows, alternative approaches to measuring equity are introduced with particular reference to how they might be put into operation within the access framework outlined in

FIGURE 1. Framework for the Study of Access

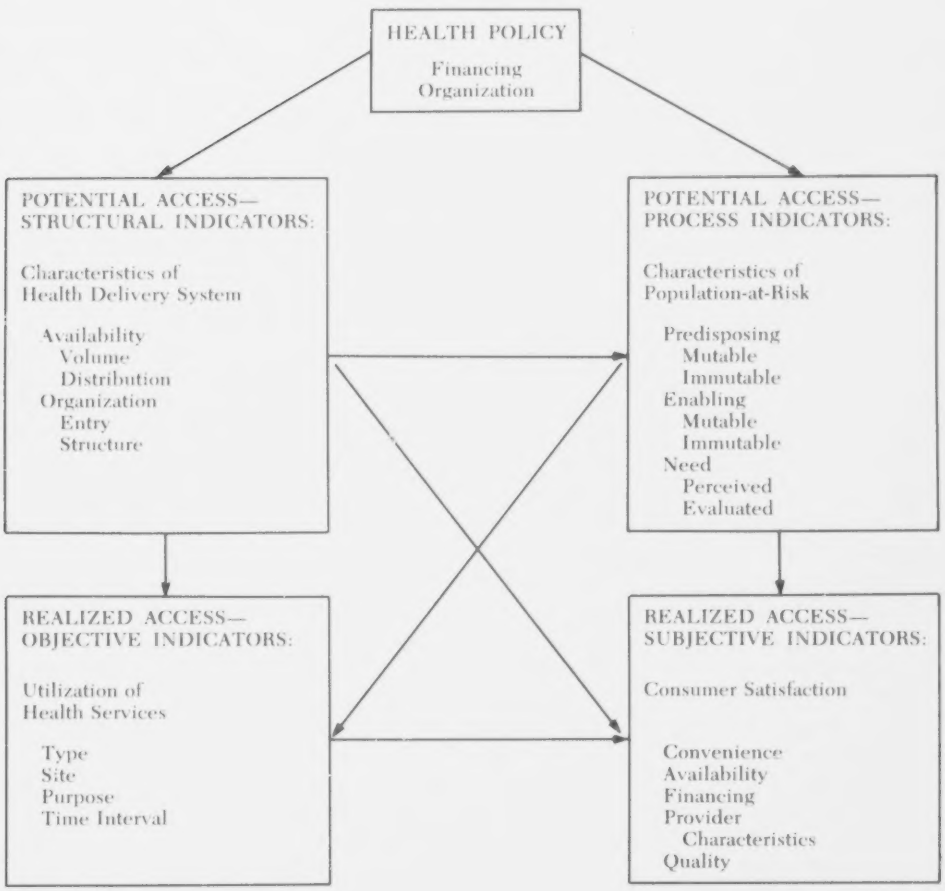

Figure 1 and the applicability of these respective criteria for effecting a "just" allocation of health care resources.

Concepts of Equity

Outka[20] explores the relevance of a number of criteria of social justice to the "equal access" objective. They are: 1) merit or desert, 2) societal contributions, 3) contribution to satisfying whatever is freely desired by others in the open marketplace, 4) needs, and 5) similar treatment for similar cases. These concepts serve as the starting point when considering variant criteria for measuring equity and the ways in which other conceptions or interpretations of justice modify or extend these.

Merit. Outka argues that merit, or who is *deserving* of care, is not an appropriate criterion to apply when considering "just" means for allocating health care resources because 1) the idea of justice is not fully defined by the merit criterion alone, and 2) health crises generally cannot be based on merit because they occur beyond an individual's power to control or predict them.

Outka does describe examples in which it can be argued that individuals are to some degree responsible for their medical problems, e.g., an overweight person who had a heart attack, a man with lung cancer who smoked cigarettes for over 40 years, or a football player who suffered a concussion.

A meaningful application of this merit criterion in terms of the overall access objective, however, may be to examine those predisposing factors, such as attitudes or health behaviors, that place individuals at greater risk of needing health care. Examples of these are people with the smoking or exercise habits in the previous example, as well as persons in age and sex categories for which the biologic givens of aging or anatomy predispose them to "undeserved" health risks. These criteria are, in fact, applied in health education, screening, risk evaluation programs, and in insurance policies with reduced premiums for people with good health habits (those who do not smoke or drink, for example).

Societal Contribution. The societal contribution criterion is based on a utilitarian concept of justice that considers the greatest good for the greatest number. Outka points out that those who contribute least to the general welfare (such as the elderly or disabled) may be ones for whom access to health care support services are the most critical.

In our society, occupational and educational statuses are the criteria frequently used (either implicitly or explicitly) to assess whether an individual's contribution to the common good is worthwhile. The differential distribution of employment-related health care benefits, for example, may be viewed as a manifestation of the resources that society is willing to devote to sustaining the health of differentially valued societal "contributors." Professional and occupational statuses cannot entirely determine whose "right to health" is most fully guaranteed, however. Medicaid and Medicare, for example, were enacted to provide coverage for individuals whose contributions to society may well be the least—the poor and the elderly.

Supply and Demand. The supply and demand principle of resource allocation emphasizes the consumer's free choice of preference among alternatives and the distribution of services on the basis of the unrestricted (laissez faire) operation of these forces. Outka and others, however, argue that the application of these principles to the distribution of health care resources is inappropriate primarily because the consumer has much less choice when deciding whether to purchase this type of service. Outka, for example, points out that "when lumps appear on someone's neck, it usually makes little sense to talk of choosing whether to buy a doctor's service rather than a color television set."[20] Mechanic[7,12] also argues that physicians, rather than consumers, make the major decisions about which services should be purchased.

The consumer has little information or knowledge of the appropriate "commodity" to buy when he or she is seriously ill. Navarro,[15,21,22] in fact, has made the case that the health insurance industry and other powerful corporate interests, rather than either physicians or consumers, make the major decisions about the kinds of health care to be delivered and consumed in the health care marketplace.

Economists are most apt to be proponents of the unrestricted operation of the free market forces of supply and demand for the allocation of health care resources.[23,24] Programs should be designed, they argue, to encourage rather than restrict the consumer and the physician when deciding on the amount and price of health care.[14,25] This policy perspective tends to encourage the development of competitive models of health care delivery, such as HMOs, or the provision of income maintenance rather than health-care specific subsidies. The laissez faire principles in this approach conform closely to Nozick's entitlement concept of justice, in which free choice among alternatives and entitlement based upon those historic choices are the main criteria on which a just allocation of resources is based.[26]

The access framework outlined earlier summarizes the supply (delivery system characteristics) and demand (population characteristics) factors that determine the price and quantity of services consumed in the health-care marketplace. A key health policy concern in examining these forces or influences is the extent to which there should be intervention to directly regulate the behavior or operation of these determinants of who obtains how much care. Most contemporary medical economists argue that some "basic minimum" care should be assured by society; however, market forces should be freer to operate in allocating services beyond this minimum.[6,25] Fein[26] argues for introducing new incentives into the existing market (e.g., centralized ceiling on health expenditures, prepaid forms of organizing care) and allowing the system to respond to these incentives.

Need. Outka[20] contends that "essential needs," in fact, constitute a much more appropriate basis for the allocation of health care resources than do merit, societal contribution, or supply and demand criteria alone. The previous discussion has suggested that because of the ethical uniqueness of allocation decisions concerning medical care, these latter criteria have, in fact, either been tempered, transcended, or ignored in many major health policy-making efforts.

As mentioned earlier, this criterion based on need has been the primary one used by the authors to describe an equitable system of health care resource distribution . Rawls' concept of social justice, based upon the allocation of resources to those individuals in the society who have the greatest need, lends support to this approach, as do those who contend that medical care is a unique commodity for which the typical market force of merit-based allocative criteria may not be appropriate.[27,28] For example, Fein has argued that we should "reject market mechanisms that might allocate resources to and within the health sector, in part, because market results are at variance with our values."[26]

The need criterion may be made operational in terms of a minimum service (e.g., annual Pap smears for women in childbearing years), the identification of pockets of observed morbidity (e.g., lead paint poisoning), or measures of the fit between observed need and obtained services (e.g., use of services relative to experienced symptoms or disability). It is this latter utilization criterion based on need that has received the greatest attention in our own approach to measuring equity.

Implicit in the development of these need criteria are some assumptions regarding the appropriate level of care relative to experienced need. The development of these criteria often requires consumers or

providers of care to make value judgments on how much of what service is required.[6] In addition, methodological criticisms have been made of the techniques used to put this approach into operation.[19] Nonetheless, it is a perspective that has received considerable attention as a basis for allocating health care resources and will be of particular interest in some of the empirical analyses of access that follow.

Similar Treatment for Similar Cases. This criterion can be explored in the context of the access framework described earlier when differences in the rates at which people report having a regular source of medical care, the convenience of this source, or the satisfaction with this care are examined. Income, race, or whether a person is covered by Medicaid or private insurance should not be used to determine the medical care received by people who must enter different doors or be "treated" differently by the health care system. This criterion, in particular, focuses on sociodemographic subgroup comparisons. Fein refers to distributional equity on this basis as "vertical equity."[26]

Measurement of Equity

The preceding discussion has described the primary ways in which the equity of access concept has been defined when formulating health policy decisions. Table 1 summarizes how each of these approaches can be put into operation, with particular reference to the access framework outlined earlier.

In our application of the access framework to measure the equity concept, we have tended to focus on the last two concepts of equity that are based on need and similar treatment for similar cases. In particular, we have emphasized the development of need-based measures of utilization and comparisons of race, income, residence, and other groups for whom similar treatment for comparable levels of need are expected.[19]

As Table 1 suggests, however, the access framework can actually be applied when putting into operation each of the approaches used to measure equity just described. Personnel and facility-to-population ratios, for example, are useful in exploring the operation of supply and demand factors. The convenience and characteristics of places people go for medical care provide data on whether there is differential "treatment" of individuals, depending upon where they happen to go for services.

Age is a correlate of need as well as a basis for defining actual or potential societal contributions; e.g., children, working-age adults, and the elderly. Sex, similarly, is often considered, rather than need; race serves to identify groups for whom access differences may well indicate differential treatment. As mentioned earlier, education and occupation are used as proxy indicators of the contributions individuals make to society. Health-care attitudes and behaviors reflect predispositions toward health and health care that may serve as a basis for deciding whether certain individuals merit the allocation of scarce health care resources. Health habits, such as smoking, diet, and exercise, did not appear in our initial access framework. They are, however, ultimately important determinants of the need for and utilization of health-care resources and may be appropriately considered among the factors predisposing individuals to eventually seek services.

The rural-urban distribution of services is important from the point of view of both the supply and demand and similar treatment concepts of equity. According to the similar treatment norm, for example, where a person lives should not determine the adequacy of medical services available. Family income serves as an indicator of the "value" individuals have in society, as well as a basis for determining the operation of supply and demand factors. Differential access by family income, for example, may

TABLE 1. Application of Access Framework to the Measurement of Equity Concepts

Dimensions of Access	Empirical Indicators of Access	Concepts of Equity				
		Merit	Societal Contribution	Supply and Demand	Need	Similar Treatment for Similar Cases
Characteristics of health delivery system						
Availability	Personnel/facility-to-population ratios			X		
Organization	Structure and convenience of medical care facilities					X
Characteristics of population-at-risk						
Predisposing	Age		X		X	
	Sex				X	
	Race					X
	Education		X			
	Occupation		X			
	Health care attitudes	X				
	Health care behaviors*	X				
Enabling	Rural-urban place of residence			X		X
	Family income		X	X		X
	Structure and convenience of regular source of care					X
	Type and extent of insurance coverage		X	X		
Need	Disability days	X			X	X
	Symptoms	X			X	X
Utilization of health services						
Physician				X	X	X
Hospital				X	X	X
Dentist				X	X	X
Consumer satisfaction						
General satisfaction						X
Visit-specific satisfaction						X

* This variable did not appear in the original access framework.

suggest that differential purchasing power rather than need per se determines who receives care.

Insurance coverage is a mechanism for effecting the operation of supply and demand factors and ultimately the price of services to those whose societal contribution is great (e.g., employees) or whose previous (elderly) or potential (children) societal contributions merit attention. The characteristics and convenience of places people usually go for medical care indicate whether individuals seem to have different experiences with different types of provid-

ers (e.g., longer waiting times in hospital emergency rooms, shorter visits with general practitioners compared with specialists) and what these differences might mean in terms of the "equitable" allocation of health care resources.

Disability days and symptoms are empirical indicators of underlying medical morbidity. They may be used as statistical controls to determine whether access differentials persist. Morbidity is also important in determining whether certain individuals merit the allocation of health care resources (e.g., life-threatening or potentially disabling illnesses may signal those conditions most deserving of attention).

Utilization measures are essential in supply and demand formulations of equity. Utilization indexes based on need are also important when need is used as the basis for resource allocation. That is, we expect similar utilization rates for individuals whose needs are similar.

Satisfaction levels indicate whether people have experienced differential treatment. In general, the more inconvenient or costly people's experiences with the health care system, the less satisfied they are.

The operational indicators just reviewed are the ones that are oftentimes available from empirical studies of access.[29] They are more or less relevant, as indicated by the previous discussion, to measuring a particular concept of equity. Further, one indicator may be applied in more than one approach to the equity concept.

Methodological Problems in Measuring Equity

A number of methodologic problems that plague any effort to empirically measure equity should be noted, however. They are, in fact, limitations of health services research methodology in general. Their particular relevance to the measurement of the equity of access objective is summarized here.

Empirical research has failed, for example, to demonstrate a necessary relationship between gaining access to medical care and health. Many factors (e.g., genetics, environmental pollution, health habits, occupational stresses) other than health care per se can affect one's overall health status. There is some evidence, as cited earlier, that health "care" may, in fact, lead to poorer rather than better health. The equity of access objective, however, is concerned with individuals gaining the right to "take the chance" that obtaining such care will benefit rather than harm them.

The "science" of medicine has not been able to establish universally accepted criteria for what is the most appropriate care for any particular illness. Standards of the appropriateness of access for a given level of need are still in large measure judgmental. Some critics have argued, in fact, that consumers may be as equally qualified as medical professionals to judge whether it is appropriate for them to seek scientific medical care for particular illnesses. Consumer satisfaction levels and attitudes are equally relevant criteria for evaluating the "success" of the medical profession in achieving their curing and caring objectives.[30]

As Mechanic[31] and others have pointed out, much of the variance in understanding the utilization of or access to medical care services remains unexplained by large-scale empirical studies in this area. One may argue that empirical work to date has done a poor job of testing and measuring the equity of access concepts or that current conceptions do not adequately capture the full range of factors that may influence who gets care and why. The extent to which health services research can help determine health policy and the ethical choices associated with it is bounded by the success with which it can empirically model these choices and their implications

for the individuals and the health-care system.[32] To the extent a great deal of the variance in access remains unexplained, the precise profile of equity may correspondingly be inadequately described.

Other methodologic issues used to empirically measure equity concern the direction and magnitude of observed relationships. For example, does not having a regular source of medical care mean people seek services less often, or do people who are healthier have less need to establish a relationship with a regular provider? Or how much difference by income or race is "enough" to establish that there is an access "problem?" Also, might the ethical importance of certain determinants vary depending upon the particular type of service being considered, e.g., emergency medical care versus cosmetic surgery. Further, Sloan[33] points out that different generalizations about equity may be the result of the particular concept or empirical definition of equity that is used.

Methodologic problems, therefore, do limit the generalizations that can be made about the profile of equity that exists at any point in time. In the section that follows the most current empirical information on the status of the equity goal is summarized, taking into account some of the limitations just described.

Trends in the Profile of Equity

Since the late 1950s, national data on the profile of access to medical care have shown increasing improvement for traditionally disadvantaged groups.[19,34,35] The advent of large-scale public financing programs (Medicare and Medicaid) and programs targeted to low-income populations (community health centers, children and youth programs, maternal and infant care) have been credited with these improvements.

Since the mid-1970s, however, there have been substantial changes in the overall economic and political climate of the country. Accompanied by programmatic changes, they may well temper the progress toward equity observed in previous decades.

We have witnessed in recent years, however, an era of double-digit inflation in tandem with high rates of unemployment. Tax payers have begun to more vigorously protest the amounts they must pay into the public coffers. Local, state, and federal lawmakers see cost containment and balanced budgets as increasingly important, but difficult, goals to achieve.

There is an increasing skepticism about what "big government" can accomplish and more blatant criticism of the perceived self-interest and inefficacy or even incompetence of the medical as well as other (e.g., legal) professions.

The poor economic health of the nation and general conservative attitude toward the efficacy and efficiency of existing programs have certainly had an impact on the health sector, as manifested by cutbacks in the Medicaid programs in a number of states, the closings of inner-city public hospitals in many large cities, the inability of Congress to reach agreement on a national health insurance proposal, and the increased burden on individual families who lose health insurance benefits during periods of unemployment.

Under these conditions, optimization of the goals of equity of access, cost containment, and quality is difficult to attain. There is some evidence that the public financing programs credited with substantial improvements in access for low income persons and nonwhites may have, in fact, significantly contributed to the escalation in the cost of medical care in recent years. Further, though utilization rates may be higher now for these groups than they ever were in the past, where they go for care (e.g., hospital emergency rooms, Medicaid mills, physicians who are not specialty-board certified) suggests that the quality of the care available to them may be less than optimum or, in fact, poor in many cases.

In the following section the most recent national data on the equity of access profile are presented in an effort to determine where we now stand. In particular, we examine whether the generally positive trends of the previous decades are continuing, whether they are apt to be maintained, and in which areas existent gains are most apt to be compromised as a result of the changes in the overall economic, political, and programmatic climate of the nation just described.

Current Survey Data on Equity

The primary sources of the data presented here are the national surveys of medical care utilization conducted by the Center for Health Administration Studies and the National Opinion Research Center (CHAS-NORC) at The University of Chicago,[19,34] data from the National Center for Health Statistics Health Interview Surveys (NCHS-HIS), and preliminary data from community survey evaluations of The Robert Wood Johnson Foundation Community Hospital Program (RWJF-CHP) carried out by the Center for Health Administration Studies in 1978 and 1979.[36,37]

The concepts of equity that were discussed earlier and are particularly emphasized in the data presented here are the need and similar-treatment-for-similar-case criteria. Poor–nonpoor and age-group comparisons are especially emphasized, as are adjustments for variants in need for services. Data are presented on both indicators of potential (e.g., insurance coverage) and realized (e.g., utilization) access to services.

Table 2 summarizes trends for five access indicators: per cent having third party (public or private) coverage, per cent of women with live births who saw a doctor during the first trimester of pregnancy, hospital admissions per 100 persons per year, doctor visits per person per year, and the per cent seeing a dentist in the year. Data are presented for five different points in time over an approximately 25-year period—1953, 1958, 1963, 1970, and 1976—covered by the CHAS-NORC national surveys.

The table shows the ratio of each indicator value for the poor compared with the nonpoor. A score greater than one means that the poor are in a better position (have higher scores) than the nonpoor. A value of less than one means they are in a less favorable position. A value of 1.00 means 100 per cent parity (or agreement on the actual scores) between the two groups.

Most broadly conceived, a value of one on the scale score axis indicates a situation of equity by the similar-treatment criterion. Some variance from this norm may well be due to real differences in need, which is a justifiable basis (according to the need criterion) for discrepancies among groups for certain of the indicators examined here (e.g., hospital admissions, physician visits).

According to Table 2 the poor continue to be at a relative disadvantage compared with the nonpoor with respect to the proportion having some form of third-party insurance coverage. Though with the advent of Medicare and Medicaid their situation has improved considerably since the mid-1960s, the proportion of the poor having any form of coverage (public or private) is still less than the nonpoor. Further, in recent years the poor do not appear to be gaining on the rest of the population.

The proportion of low-income women seeing a doctor during the first trimester of pregnancy continues to be lower than that of higher income mothers. There is evidence of substantial gains between 1953 and 1958, which have not been fully maintained in the past two decades. There was little change between 1970 and 1976 in the relative position of poor mothers. They continued at 73–74 per cent of parity compared with high income mothers.

The poor have generally had higher rates of hospital admissions than the nonpoor over the past 25 years. One reason is that

TABLE 2. Selected Indicators of Access to Medical Care of the Poor* Compared With the Nonpoor: From the CHAS National Surveys† (1953, 1958, 1963, 1970, 1976)

Access Indicators	Ratio Score: Poor/Nonpoor‡				
	1953	1958	1963	1970	1976
Per cent with third-party coverage of medical expenses	0.70	0.65	0.73	0.87	0.84
Per cent of women with live births who see physician in the first trimester of pregnancy	0.56	0.83	0.67	0.74	0.73
Hospital admissions per 100 persons per year	1.02	1.08	1.05	1.36	1.29
Physician visits per person per year (excludes phone calls)	0.70	—	0.98	1.32	1.12
Per cent seeing dentist within a year	0.37	—	0.48	0.57	0.60

* Source: References 19, 34, 38, 39, 40, 41.

† Definitions of poor based on total family income of under: (1953) $3,000; (1958) $3,500; (1963) $4,000; (1970) $6,000; (1976) $8,000.

‡ Score less than 1.00 indicates poor have less access; score greater than 1.00 indicates poor have greater access.

the poor tend to have much more serious, especially chronic, illnesses compared with the nonpoor. A major increase in the relative number of admissions of the poor compared with the nonpoor occurred in the post-Medicare-Medicaid period (from 5 per cent more in 1963 to 36 per cent more in 1970). This relative increase leveled off over the next 5–6 years, however.

Especially dramatic gains of the poor relative to the nonpoor may be observed in terms of the mean number of physician visits reported over the 25 year period. In the early 1950s the poor averaged 70 per cent as many visits as the nonpoor. From that time on their relative position improved; of major impetus were the federal financing initiatives during the mid-1960s. By 1970 the poor were averaging considerably more visits than the nonpoor (approximately one third). By 1976 this relative advantage appeared to decline somewhat.

The relative position of the poor in terms of the proportion who have seen a dentist during the year improved substantially during the 1950s and 1960s. However, less improvement is noted during the 1970s and their rate of use remains considerably below that of the nonpoor (about 60 per cent of parity).

In summary, Table 2 reinforces our conclusions from earlier analyses of the CHAS surveys that access of the poor relative to the nonpoor has improved significantly since the early 1950s. Substantial inequities persist, however, in the areas of dental services, prenatal care, and adequate third-party coverage; there have been no signs of these gaps narrowing in recent years. Further, dramatic increases observed in the 1950s and 1960s with respect to rate of hospital and physician use by the poor compared with the nonpoor did not appear to continue into the 1970s.

Table 3 (from NCHS) provides even more recent data, including 1978 and 1979, to illuminate whether these trends are continuing. Also, the use of a second major data source is important for confirmation because of the complexity of the access concept and the rudimentary state-of-the-art concerning its measurement.

The data in Table 3 tend to confirm the broad profile of equity on the part of the poor and nonpoor observed in Table 2. The poor continue to have a considerable dis-

TABLE 3. Selected Indicators of Access to Medical Care of the Poor* Compared With the Nonpoor: From the NCHS National Surveys† (1964, 1973, 1976, 1978, 1979)

Access Indicators	Ratio Score: Poor/Nonpoor‡				
	1964	1973	1976	1978	1979
Hospital discharges per 100 persons per year	1.10	1.52	1.47	1.51	—
Per cent visiting a physician in past two years	0.88	0.96	0.97	0.99	—
Physician visits per person per year	0.94	1.14	1.17	1.21	1.22
Per cent visiting a dentist in past two years	0.57	0.67	0.70	0.70	—
Dentist visits per person per year	0.44	0.61	0.61	0.61	—

* Source: Unpublished data from the Health Interview Survey, National Center for Health Statistics.

† Definitions of poor based on total family income of under: (1964) $3,000; (1973) $6,000; (1976) $7,000; (1978) $7,000; (1979) $7,000.

‡ Score less than 1.00 indicates the poor have less access; score greater than 1.00 indicates the poor have greater access.

advantage compared with the nonpoor with respect to dental service use. The leveling off of gains on this indicator between 1963–64 and 1976 appears to be sustained through 1978.

The NCHS hospital discharge data show a pattern similar to the CHAS-NORC hospital admission rate estimates—dramatic gains for the poor in the mid to late 1960s with a leveling off in the 1970s.

The NCHS data—as do CHAS-NORC* data not reported here—suggest that the proportion of the poor and nonpoor contacting a doctor at least once is approaching parity. The NCHS mean physician visit data similarly indicate there has been a sustained increase in the relative position of the poor through the 1960s; in the 1970s the rate of this increase began to decline to some extent.

To interpret more adequately the equity of the differences observed between the low and high income groups, controls for the variant levels of illness experienced by the respective groups and their differential age composition should be attempted. For example, the poor have traditionally reported more days of disability and higher rates of chronic illness than the nonpoor.[42] We have observed from recent overall mean physician visit and hospital use data that the poor now, in fact, use more services on the average than do the nonpoor. This appears to be a move in the right direction to achieve equity. Tables 4–6 present several alternatives to estimating equity between the high and low income groups, computing physician use rates adjusted for need and age. These indicators represent an effort to refine empirically and apply the concept of equity based on need that was discussed earlier.

Table 4 summarizes the rates of use relative to need for the poor and nonpoor from the CHAS surveys in contrast to physician-determined norms of "appropriate" access. The symptoms-response ratio reflects whether individuals in different age groups see a doctor more or less often for symptoms experienced than a panel of physicians thought was warranted.[19] A zero

* The CHAS-NORC and NCHS-HIS estimates of physician visits differ slightly in that the former excludes phone calls, while the latter includes them.

TABLE 4. Symptoms-Response Ratio for the Poor* Compared With the Nonpoor: From the CHAS National Surveys† (1963, 1970, 1976)

Family Income Level	Symptoms-Response Ratio Score‡		
	1963	1970	1976
Poor	−28.00	−14.00	−5.00
Nonpoor	−12.00	−11.00	−6.00

* Source: Reference 19.

† Definitions of poor based on total family income of under: (1963) $4,000; (1970) $6,000; (1976) $8,000. In each year approximately one-fourth of the population was defined as poor.

‡ A minus score indicates group saw a doctor less often for symptoms experienced than panel of physicians judged appropriate. A plus score indicates group saw a doctor more often than panel judged appropriate.

score on the index means individuals saw a doctor as often as the doctors thought necessary. A negative score means doctors were seen less often and a positive score indicates doctors were seen more often than doctors thought appropriate.

Table 4 provides a very encouraging view of the access gains of the poor between 1963 and 1976. The tendency for low-income individuals to see a doctor much less often (28 per cent less often in 1963, for example) than the physicians thought necessary has changed dramatically over time. According to the symptoms-response ratio for 1976, the poor and nonpoor had very similar profiles of appropriate contact for symptoms—5 and 6 per cent less often than the physicians judged appropriate, respectively. However, there is still a tendency for both low and high income individuals to see a physician less often for symptoms than clinically-based norms suggest is appropriate.

Tables 5 and 6 provide the NCHS alternative need-adjusted physician visit measures for years 1964 through 1979. Table 5 is a modified use-disability index that summarizes the ratio of mean physician visits to mean disability days for the respective age and income groups.† A higher score on the ratio means that the group had more visits relative to days of disability than those with a lower score. This ratio may be considered a physician-use indicator adjusted primarily for acute illness because the majority of the disability days reported are associated with acute conditions. In contrast, the basis for the data reported in Table 6 is mean physician visit estimates for the respective groups adjusted for the proportion with chronic illness in each of the groups.‡

According to Table 5, the poor have not achieved parity with the nonpoor in terms of a very general index of visits relative to reported days in bed or of limited activity. Poor children and young adults appear to have come closest to parity. This index shows considerable fluctuation rather than consistent improvement for the poor from the early 1960s through the late 1970s. Indeed, the ratios from the latest year (1979) are very similar to the initial ones shown for 1964.

According to the index adjusted for chronic illness in Table 6, there appears to have been substantial improvement in the status of the poor of all age groups since the early 1960s. The relative improvement for poor children—from 57 per cent of parity in 1964 to virtual parity (0.96) in 1979—is particularly noteworthy. As all of the poor groups approached or exceeded parity in the mid 1970s we observe fluctuations in the trends, but these fluctuations should be interpreted with caution. There is some suggestion that the gains by the poor in certain age groups cannot be maintained.

In sum, the three indices of physician visits adjusted in various ways for illness

† This modified ratio differs from the original in that it is not limited to individuals who had at least one day of disability in the year. See Reference 19, pp. 185-192, for a fuller description of how the original index was constructed.

‡ These adjustments are explained in *Health: United States, 1980*.[35]

TABLE 5. Physician Visits/100 Disability Days for the Poor* Compared With the Nonpoor, By Age Group: From the NCHS National Surveys† (1964, 1973, 1976, 1978, 1979)

Age Group	Ratio Score:Poor/Nonpoor‡				
	1964	1973	1976	1978	1979
Under 17 years	0.78	0.72	0.79	0.77	0.78
17–44	0.69	0.70	0.72	0.74	0.74
45–64	0.49	0.47	0.55	0.60	0.46
65 and over	0.62	0.74	0.72	0.58	0.61

* Source: Unpublished data from the Health Interview Survey, National Center for Health Statistics.
† Definitions of poor based on total family income of under: (1964) $3,000; (1973) $6,000; (1976) $7,000; (1978) $7,000; (1979) $7,000.
‡ Score less than 1.00 indicates the poor have fewer visits per 100 disability days than nonpoor. Score greater than 1.00 indicates the poor have more visits per 100 disability days than the nonpoor.

(Tables 4–6) provide a somewhat mixed picture. The symptoms-response ratio (Table 4) and visits adjusted for chronic illness (Table 6) shows the poor making consistent progress from the early 1960s through the mid 1970s. Information from the later 1970s on the chronic illness measure fails to substantiate systematic and sustained gains for the poor in all age groups. It might be argued, according to the need concept of equity, that the higher scores for the poor are not justified. What would be disturbing, however, is the possibility that we are documenting the beginnings of a reversal of the earlier favorable trends; this could result in the poor systematically losing ground and regressing to their traditional disadvantaged position. The use-disability ratio (Table 5), like the chronic illness adjustment, fails to show systematic gains for the poor in the late 1970s but also does not support the view that the poor made systematic gains in the 1960s and early 1970s.

Tables 7–10 provide comparisons among 12 different communities and the national average for selected access indicators. These data are based on access surveys conducted in representative communities in which there was a community hospital-sponsored group practice funded by The Robert Wood Johnson Foundation

TABLE 6. Poor to Nonpoor Physician Visit Ratios* Adjusted for Chronic Illness by Age Group: From the NCHS National Surveys†: (1964, 1973, 1976, 1978, 1979)

Age Group	Ratio Score Poor/Nonpoor‡				
	1964	1973	1976	1978	1979
Under 17 years	0.57	0.88	0.89	0.93	0.96
17–44	0.80	1.06	1.06	1.21	1.20
45–64	0.80	0.90	0.94	1.16	0.97
65 and over	0.75	0.87	1.01	0.85	0.90

* Source: Unpublished data from the Health Interview Survey; References 43, 44.
† Definitions of poor based on total family income of under: (1964) $3,000; (1973) $6,000; (1976) $7,000; (1978) $7,000; (1979) $7,000.
‡ Score less than 1.00 indicates the poor have fewer visits adjusted for their rate of chronic illness than the nonpoor. Score greater than 1.00 indicates the poor have more visits than the nonpoor.

TABLE 7. Proportion of Persons With a Regular Source of Care in Selected Communities (1979) Compared With the U.S. Average (1976) by Age Group*

Community	Community Characteristics			Ratio Score: Community/Nation‖			
				Age			
	Income Level†	Residence‡	Region§	Under 17 years	18–34	35–64	65 and over
A	Low	Metro	NE	1.02	1.08	0.92	0.99
B	Low	Metro	S	1.05	1.07	1.01	1.02
C	Low	Metro	W	0.79	0.71	0.83	0.98
D	Low	Nonmetro	NE	0.99	0.96	0.90	1.04
E	High	Metro	NC	1.05	1.04	1.00	0.95
F	High	Metro	NC	1.00	1.02	0.99	0.93
G	High	Metro	W	0.98	1.02	1.05	0.93
H	High	Nonmetro	W	0.84	0.75	0.81	0.90
I	High	Nonmetro	S	1.04	1.08	1.01	1.03
J	High	Nonmetro	NE	1.06	0.96	0.95	0.95

* Source: Unpublished preliminary data from Community Hospital Program Access Study, CHAS, University of Chicago; Reference 19.

† Low indicates less than $10,000; high indicates $10,000 or more.

‡ Metro indicates community is within a Standard Metropolitan Statistical Area. Nonmetro indicates community is not within a Standard Metropolitan Statistical Area.

§ Refers to major census divisions: NE = Northeast, NC = North Central, S = South, W = West.

‖ Score less than 1.00 indicates proportion in community with a regular source is less than proportion in the country as a whole. Score greater than 1.00 indicates proportion in community is greater than in country as a whole.

as a part of its Community Hospital Program (CHP).[36,37]

These data were for the most part collected in late 1978 and early 1979.§ The purpose of presenting these findings is to try to discover if there are continuing pockets of inequity among certain groups or types of communities that may not be apparent from the aggregate national statistics just reviewed. The communities in the Community Hospital Program represent a range of community types—high and low income, metropolitan (densely populated) and nonmetropolitan (sparsely populated), regionally diverse, etc.

Tables 7–9 show the ratios of the scores for the community compared with the national averages on the access measure of interest. A value of one means conformity with the national average, a value of less than one means the community score is lower, and a value of more than one, the community score is higher than the national average. The scores for various age groups in the respective communities are displayed in each table.

Assume that a score of plus or minus 10 per cent of the national average (range of 1.1–0.9) indicates that the community and the nation as a whole conform relatively closely. Most age groups within each of the CHP communities are near the national average in terms of the proportion of residents who report having a regular source of care (Table 7). Two communities from the Western region (C and H) are exceptions, with all age groups except the elderly showing limited access to a regular source of care. Young adults, 18–34 especially, were less likely to report having a regular place to go for medical care than was generally true nationally. In contrast, the elderly in these communities were within the plus or minus 10 per cent band. We may

§ These data are preliminary and subject to change.

TABLE 8. Proportion of Persons With Third-Party Coverage of Medical Expenses in Selected Communities (1979) Compared With the U.S. Average (1976) by Age Group*

Community	Community Characteristics			Ratio Score: Community/Nation†		
	Income Level‡	Residence§	Region‖	Age		
				Under 17 years	18–34	35–64
A	Low	Metro	NE	1.04	1.05	0.95
B	Low	Metro	S	1.03	0.96	0.99
C	Low	Metro	W	0.81	0.74	0.88
D	Low	Nonmetro	NE	0.93	0.85	0.98
E	High	Metro	NC	1.12	1.12	1.10
F	High	Metro	NC	1.05	1.06	1.04
G	High	Metro	W	1.07	1.04	1.01
H	High	Nonmetro	W	0.94	0.90	0.99
I	High	Nonmetro	S	1.11	1.07	1.09
J	High	Nonmetro	NE	1.09	1.09	1.05

* Source: Unpublished preliminary data from Community Hospital Program Access Study, CHAS, University of Chicago; Reference 19.

‡ Low indicates less than $10,000; high indicates $10,000 or more.

§ Metro indicates community is within a Standard Metropolitan Statistical Area. Nonmetro indicates community is not within a Standard Metropolitan Statistical Area.

‖ Refers to major census divisions: NE = Northeast, NC = North Central, S = South, W = West.

† Scores less than 1.00 indicate proportion in community with third-party coverage is less than proportion in country as a whole. Scores greater than 1.00 indicate proportion in community is greater than in country as a whole.

be observing here the equalizing impact of Medicare at the community level.

The proportion of people with some form of public or private third-party coverage was also lower in Community C—a low income inner city area—than was the case nationally (Table 8). Among the other communities there was greater correspondence in the rates of coverage to the national average. However, it appears that the higher income communities tend to have a higher proportion of their residents reporting coverage than the low income communities.

The proportion of community residents who had seen a doctor within the year was within 10 per cent of the national average for the majority of age groups in all communities (Table 9). The major exception to this trend was the generally high proportion of children in the high income communities seeing a doctor. On the "deficit side," adults (except the elderly), particularly in the low income communities, tend to have contact rates below the national average. The most extreme case is the adult group in Community A (a low income inner city area in the Northeast) with a contact rate that is 86 per cent of the national average.

Table 10 compares the symptoms-response index in each community with the norms of appropriate response provided by the physician panel. It shows that there is considerable variance by community and age group in the symptoms-response ratio scores.[‖] Some particular subgroups are considerably below this figure, e.g., 35–64-year-olds in Community D (a low income relatively rural area in the Northeast), and some are considerably above it, e.g., 18–34-year-olds in Community A. Despite unique community differences, some patterns reflective of national

[‖] This is a revised version of the ratio shown in Table 4 that is based on a reduced number of the symptoms included in the national study.

TABLE 9. Proportion of Persons Visiting an M.D. Within a Year in Selected Communities (1979) Compared With the U.S. Average (1976) by Age Group*

Community	Community Characteristics			Ratio Score: Community/Nation‖			
				Age			
	Income Level†	Residence‡	Region§	Under 17 years	18–34	35–64	65 and over
A	Low	Metro	NE	1.02	0.91	0.86	1.06
B	Low	Metro	S	1.03	1.02	1.04	1.09
C	Low	Metro	W	0.99	0.87	0.96	1.01
D	Low	Nonmetro	NE	1.05	1.00	0.91	0.97
E	High	Metro	NC	1.17	0.94	1.01	0.98
F	High	Metro	NC	1.06	0.99	0.93	0.94
G	High	Metro	W	1.24	1.01	1.03	0.89
H	High	Nonmetro	W	1.15	1.02	0.98	0.94
I	High	Nonmetro	S	1.18	1.04	0.99	1.02
J	High	Nonmetro	NE	1.17	1.03	1.04	1.10

* Source: Unpublished preliminary data from Community Hospital Program Access Study, CHAS, University of Chicago; Reference 19.

† Low indicates less than $10,000; high indicates $10,000 or more.

‡ Metro indicates community is within a Standard Metropolitan Statistical Area. Nonmetro indicates community is not within a Standard Metropolitan Statistical Area.

§ Refers to major census divisions: NE = Northeast; NC = North Central, S = South, W = West.

‖ Score less than 1.00 indicates proportion in community visiting a physician is less than proportion in country as a whole. Score greater than 1.00 indicates proportion in community is greater than proportion in country as a whole.

findings do emerge[19]: higher scores among children and those in metropolitan areas, and lower scores for adults and individuals in nonmetropolitan areas.

In summary, Tables 2–10 suggest that according to the need and similar-treatment-for-similar cases criteria of equity, there have indeed been considerable improvements in the equity of access profile in the U.S. over the past 25 years. These caveats are also borne out by these data:

1. The poor are much less apt than the nonpoor to see a dentist during a year, (for pregnant women) to visit a doctor during the first trimester of pregnancy, or to have adequate private or public third-party coverage.

2. The relative gains of the poor in terms of overall physician visit rates may be leveling off or, to some extent, diminishing when compared with the nonpoor.

3. Persons with low-incomes may be using services in response to symptoms about as appropriately as persons with high-incomes, but other indicators suggest that relative to experienced disability or chronic illness, complete parity between income groups may still not have been achieved for all age groups.

4. Pockets of inequity continue to exist, depending on the measure of access that is considered, the type of community in which people live, and the social and demographic characteristics of persons within the community.

Governmental Programs and Equity

Clearly the two major government financing initiatives begun in 1966 that have most influenced the population's use of medical services are Medicare for the elderly (and later the disabled) and Medicaid for those with low incomes. In the later 1970s and 1980, reports of increasing state restrictions on eligibility, benefits, and reimbursements for the Medicaid Program prompt us to examine summary trends in Medicaid and Medicare performance that might change the overall access picture in the United States. Also, changes

TABLE 10. Symptoms-Response Ratio for Selected Communities (1979) by Age Group*

Community	Community Characteristics			Symptoms-Response Ratio Score¶			
	Income Level†	Residence‡	Region§	Age			
				Under 17 years	18–34	35–64	65 and over
A	Low	Metro	NE	26	34	− 3	28
B	Low	Metro	S	18	−12	− 1	24
C	Low	Metro	W	4	−11	11	8
D	Low	Nonmetro	NE	1	−15	−24	−17
E	High	Metro	NC	18	13	−17	10
F	High	Metro	NC	9	− 7	− 1	−12
G	High	Metro	W	11	−17	−10	−23
H	High	Nonmetro	W	−12	−22	−14	1
I	High	Nonmetro	S	6	7	−17	6
J	High	Nonmetro	NE	14	− 8	− 9	4
National Average				− 1	−11	− 6	0

* Source: Unpublished preliminary data from Community Hospital Program Access Study, CHAS, University of Chicago; Reference 19.

† Low indicates less than $10,000; high indicates $10,000 or more.

‡ Metro indicates community is within a Standard Metropolitan Statistical Area. Nonmetro indicates community is not within a Standard Metropolitan Statistical Area.

§ Refers to major census divisions: NE = Northeast, NC = North Central, S = South, W = West.

¶ A minus score indicates community residents saw a doctor less often for symptoms experienced than a panel of physicians judged appropriate. A plus score indicates community residents saw a doctor more often than panel judged appropriate.

in various other governmental efforts to provide service to particularly vulnerable groups and those who "fall through the cracks" between private and government financing systems (neighborhood and later community health centers, maternal and child health care, migrant and rural health care) have the potential to influence the access picture. Consequently, we examined trends in the Community Health Centers Program in particular, as well as Medicaid and Medicare.

Table 11 shows steady increases in Medicaid payments from about $3.5 billion in 1968 to over $20 billion in 1979. The number of Medicaid recipients more than doubled from 11.5 million in 1968 to about 23.5 million in 1976. However, in each of the last three years for which we have information the number declined, dropping to a little more than 21 million in 1979. Although we were cautioned that the apparent recent drop in recipients may be influenced by modified reporting in some states,[45] the impact of these changes on the overall summary figures is not clear. Further, the trend the past few years is parallel to the reports in numerous states of fiscal problems in the Medicaid Program with resultant cuts in services.

The annual payments per recipient have grown each year from $300 in 1968 to $950 in 1979. When these payments are adjusted for the increasing price of medical care the increase is not consistent. The constant dollar value of services received in 1979 is actually $424 or about 40 per cent more than in 1968.

Since its inception, Medicare has increased its enrollment each year starting with 19 million in 1966 and reaching almost 27 million in 1978 (Table 12). Contributing to the increase has been the growing number of persons 65 years of age and

TABLE 11. Medicaid Payments Adjusted for Increases in Recipients and Prices, Fiscal Years 1968–1978

Fiscal Year	Total (Federal and State) Medicaid Payments (Thousands)*	Yearly Number of Medicaid Recipients (Thousands)†‡	Medical Care Price Index§	Per Cent Growth of Medical Care Costs	Annual Payments Per Medicaid Recipient ($)	Payment Per Recipient in Constant Dollars
1968[a]	3,451,376	11,500	100.0	6.1	300	300
1969[a]	4,351,486	12,060	106.9	6.9	331	338
1970[a]	5,093,901	14,507	113.7	6.4	351	309
1971	6,345,199	17,965	121.0	6.4	353	292
1972	7,346,131	17,990	124.9	3.2	408	327
1973	8,713,761	18,818	129.8	3.9	463	357
1974	9,737,398	20,842	141.9	9.3	467	329
1975	12,086,166	21,197	158.9	12.0	570	359
1976	13,977,348	23,462	174.1	9.6	596	342
1977	16,354,599	22,814	190.8	9.6	717	376
1978	17,965,000	22,198	206.4	8.9	809	392
1979	20,200,000	21,200	224.5	8.7	953	424

Source: Reference 45; Personal Communication: U.S. Department of Health and Human Services, Health Care Financing Agency, Medicaid Bureau, Region V (Chicago, Illinois).

* Source: "State Expenditures for the Medical Assistance Program" except for FY 1978 which comes from the Appendix to the Budget of the U.S. Government for FY 1980. See Technical Notes 1, 2 and 5 in Appendix.

† Includes some recipients of aid under nonfederally matched programs.

‡ Source: "Medicaid State Tables" except for 1971, 1977 and 1978 which are from "Medicaid Statistics." See Technical Notes 3, 4, 5, 6 and 7 in the Appendix.

§ Bureau of Labor Statistics Medical Care Price Index with adjustments to make 1968 = 100.

[a] Includes payments under the Kerr-Mills program.

over as well as the inclusion in the program of other categories of people (those on kidney dialysis and the disabled).

Another Medicare-based indicator of access is the proportion of enrollees who chose to purchase supplementary medical insurance. This proportion has increased each year from 92.4 per cent in 1966 to 97.4 per cent in 1978. The average monthly premium for this supplementary insurance rose from $3.00 in 1966 to about $8.00 in 1978. Adjusting by the Consumer Price Index for all items suggests that recipients in 1978 were paying about one-third more for their medical insurance in 1978 than was the case in 1966.

Total reimbursements for hospital and supplemental medical insurance reached almost $24 billion in 1978. The average reimbursement per enrollee increased from $268 in 1968 (the first full year experience shown in Table 12) to almost $900 in 1978. Adjustment for inflation in the price of medical care suggests that the amount spent per recipient per year in 1966 dollars actually increased from $236 in 1968 to $381 in 1978, an increase of around 60 per cent.

The last indicator of Medicare access we examine is the deductible for hospital services, or the amount the hospitalized patient must pay before Medicare takes over. It was $40 in 1966 and had increased to $144 by 1978. Adjusting for inflation, the increase was from $40 to $72.

The Community Health Centers Program, although much smaller than the overall Medicaid Program in terms of expenditures and users, showed steady increases in the number of people its various projects served—from 1.2 million in 1974 to 4.2 million in 1980 (Table 13). Its distribution of revenues suggests that many of its services and the patients it serves are

not covered under Medicare and Medicaid; in 1980 about 16 per cent of its revenues came from Medicare and Medicaid. Despite the increases in users (250 per cent) and encounters (200 per cent) between 1974 and 1980, appropriations in constant 1974 dollars were actually less in 1980 (174 million) than in 1974 (197 million).

Thus, our examination of Medicare and the Community Health Centers Program suggests that coverage in terms of the numbers of people served and services per recipient continued to increase in recent years. Potential access barriers in Medicare might be reflected, however, in the increasing cost of deductibles for hospitalization and the supplementary medical insurance premiums. In the case of the Community Health Centers Program, appropriations do not appear to be keeping pace with the number of services provided, although the Centers are securing revenues from a number of different sources.

The Medicaid picture is different. Although the payment per recipient in constant dollars showed some increase in recent years (about 24 per cent between 1976 and 1979), the number of recipients apparently declined by over two million in this same period. Assuming this decline is not simply a matter of record-keeping, it may represent a trend to increasing access barriers with time. During a similar time period (1976–1978) the number of people with below poverty level incomes declined by only one-half million.[50] Given relatively high rates of unemployment, a stagnant economy, and difficulties of local governments in maintaining their own medical care programs, it seems unlikely that other sources can cope with the decline in service delivery and financing resulting from Medicaid cutbacks.

TABLE 12. Trends in the Medicare Program

Year	Number Enrolled for Hospital Insurance	Per Cent of Hospital Enrolled with Supplemental Medical Insurance	Total Reimbursement for Hospital and Supplemental Medical Insurance	Average Expenditure/ Recipient (Current $)	Average Expenditure/ Recipient (1966 $)	Inpatient Hospital Deductible (Current $)	Inpatient Hospital Deductible (1966 $)	Supplementary Medical Insurance Average Premium/Month (Current $)	Supplementary Medical Insurance Average Premium/Month (1966 $)
1966*	19,082	92.4	886,943	46	46	40	40	3.00	3.00
1968	19,770	95.1	5,289,026	268	236	40	37	4.00	3.73
1970	20,361	96.2	6,605,683	324	251	52	43	4.70	3.93
1972	21,115	96.4	8,165,978	387	273	68	53	5.50	4.27
1973†	23,302	96.5	8,642,782	371	252	68	50	6.05	4.70
1975	24,640	97.0	14,523,573	589	326	92	59	6.70	4.04
1976	25,312	97.2	17,350,766	685	346	104	59	6.95	3.97
1977	26,094	97.2	20,869,055	800	369	124	66	7.45	3.99
1978	26,777	97.4	23,955,521	895	381	144	72	7.95	4.00

Source: References 44, 46–50. * Program in effect half the year. † From 1973 on statistics include disabled persons under 65 years of age.

Health Policy and the Current Profile of Equity

Issues to be addressed in any policy deliberations concerning the problems of

TABLE 13. Community Health Centers

	1974	1976	1978	1980
Appropriations (Current $)	197m	197m	247m	320m
Appropriations (1974 $)	197m	155m	162m	174m
Users	1.2m	2.2m	3.0m	4.2m
Encounters	5.6m	10.0m	13.3m	16.8m
Projects	157	302	591	872

1976 Survey of CHC Users Showed:
- 71% under poverty level
- 80% minority
- 49% have no employed family member
- 41% under 18

CHC revenues from first and third parties

	1974	1977	1978	1979	1980
Medicare		2.9%	2.3%	2.4%	2.5%
Medicaid		15.1	12.4	12.7	13.3
Title XX		0.3	0.3	0.3	0.3
Private insurance		6.1	6.5	6.7	7.0
Other third party		2.7	3.2	3.3	3.4
Patient fees		9.3	12.3	12.9	13.5
Total (%)	17.4	36.4	37.2	38.3	40.0

Note: In 1974 NCHS began a major management push to improve project collections from first and third parties, and later years show results of these efforts. Clearly, however, Medicaid is *not* providing the major financing of CHCs. In fact, the Medicaid dropoff after 1977 reflects: 1) increased CHC activity in rural areas with lower percentages of Medicaid recipients, and 2) increasing state restrictions on eligibility, benefits, and reimbursements.

Source: Personal Communication: Ronald H. Carlson, Associate Administrator for Planning, Evaluation and Legislation, Health Services Administration, Department of Health and Human Services.

equity include: 1) are the problems of sufficient magnitude or importance to warrant the expenditure of resources, and 2) if so, what means might be effective in solving them?

Consideration of the first issue must draw upon some of the questions raised in the initial sections of this paper. Inequities do remain that are based upon the need and similar treatment criteria. The magnitude of the problem is less than in the past, but there is no evidence that substantial narrowing of existing gaps is taking place or that current trends will continue should there be significant reductions in programs previously responsible for initiating and sustaining these trends.

Practical questions to consider in deciding whether the problems that remain are important enough to warrant further investment of resources include:

1. What are the value judgments implied in defining a particular observed "inequity" as a problem?
2. What criteria should be used to measure how much of a difference signals a "serious" problem, i.e., plus or minus "X" per cent of the national average?
3. Will addressing this problem bring about other positive outcomes, i.e., improved health status or more consumer satisfaction?
4. Are the resources to bring about the desired change available either from the individual or the delivery system?

5. Will achieving the objective of equity of access mean that other (e.g., cost or quality) goods are compromised?

6. What are the likely outcomes if no attention is directed to the problem or if existing programs dealing with the problem are discontinued?

These are questions of practical importance in fluid and stressful economic and political times. Assuming that some of the issues identified here are ones that are singled out for attention, we are then called upon to address the second question of the means by which those desired ends can be effected. As mentioned in preceding sections of the paper, the contribution that health services research has made (more or less successfully) in answering this question are efforts to model the "if-then" of various policy choices. There is evidence, for example, that financing initiatives have been responsible primarily for narrowing the overall use differentials by income. On the other hand, health care reorganization strategies such as community health centers or comprehensive family-centered HMOs also may have contributed to these outcomes. Efforts to focus on solutions to the problems that remain should build on existing empirical work that attempts to estimate the coefficient of association, and/or causality, between certain desired outcomes and mutable policy-relevant means to effect them.

Future empirical work on the equity of access concept could aid the process of decision-making just outlined by 1) refining further the means of measuring need and use, and the relationship between the two; 2) developing and applying various criteria of appropriateness; 3) estimating program impact, and 4) developing operational indicators of explicit tradeoffs in the cost, quality, and access objectives.

Forces in our society that portend increasing emphasis on cost control at the expense of quality and, in particular, access objectives include: 1) the current conservative political climate highlighted by the efforts to cut government spending; 2) the concern about inflation, with medical care singled out as a major contributor; 3) increasing life expectancy and reduced infant mortality and disease-specific death rates (such as heart disease); and 4) the growing emphasis on good health habits (diet, exercise, self diagnosis and treatment).

Under these circumstances even the concept of medical care as a right may be increasingly questioned. The Reagan administration has proposed substantial cuts in Medicaid spending. The criteria of social justice dominant in our society with respect to the distribution of health services may shift toward the marketplace, merit, and societal contribution, and therefore away from need and similar treatment.

The shift might be buttressed by the evidence that the poor currently have higher admission rates and more physician visits than the rest of the population; an inability to show that much medical care has a positive impact on traditional health status measures; continued improvement in these health status measures (mortality rates); and the increasingly held belief that the individual may be largely responsible for good health status through personal habits or "meritorious actions."

Our findings suggest that the access picture is much more complex than the simple gross hospital and physican use rates indicate. Further, we may be at a critical point as far as slowing or reversing trends in access that have been documented over the past 30 years. The indicators in this report (and it is hoped that better ones will be developed) need to be continually updated and analyzed. This activity will not necessarily alter the criteria currently in vogue for judging equity of access and resulting policy and programs. At least these indicators can relay in a timely fashion to our leaders and the public some of the costs (or benefits) of policy decisions concerning health services delivery and financing.

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References

1. Blackstone WT. On health care as a legal right: an exploration of legal and moral grounds. Georgia Law Review 1976;10:391.

2. Sidel VW. The right to health care: an international perspective. In: Bioethics and Human Rights. Boston: Little, Brown, 1978.

3. White RL. Right to Health: The Evolution of an Idea. Iowa City: The University of Iowa, 1971.

4. Carlson R. The End of Medicine. New York: John Wiley and Sons, 1975.

5. Illich I. Medical Nemesis: The Expropriation of Health. Toronto: Bentam Books, 1976.

6. Blumstein JF, Zubkoff M. Public choice in health: problems, politics and perspectives on formulating national health policy. J Health Polit Policy Law 1979;4:382.

7. Mechanic D. Rationing health care: public policy and the medical marketplace. Hastings Center Report 1976;6:34.

8. Sparer EV. The legal right to health care: public policy and equal access. Hastings Cent Rep 1976;6:39.

9. McGarvey MR. Some considerations regarding ethics and the right to health care. In: Bioethics and Human Rights. Boston: Little, Brown, 1978.

10. Gustafson JM. Interdependence, finitude, and sin: reflections on scarcity. Journal of Religion 1977;57:156.

11. Hiatt HH. Protecting the medical commons: who is responsible? N Eng J Med 1975;293:235.

12. Mechanic D. Ethics, justice, and medical care systems. Ann *AAPSS* 1978;437:74.

13. Weinstein MC, Stason WB. Allocating resources: the case of hypertension. Hastings Cent Rep 1977;7:24.

14. Levine C. Ethics and health cost containment. Hastings Cent Rep 1979;9:10.

15. Navarro V. Health and the corporate society. Social Policy 1975;5:41.

16. Pellegrino ED. Medical morality and medical economics. Hastings Cent Rep 1978;8:8.

17. Aday LA, Andersen R. A framework for the study of access to medical care. Health Serv Res 1974;9:208.

18. Aday LA, Andersen R. Development of Indices of Access to Medical Care. Ann Arbor MI: Health Administration Press, 1975.

19. Aday LA, et al. Health Care in the U.S.: Equitable for Whom? Beverly Hills CA: Sage Publications, 1980.

20. Outka G. Social justice and equal access to health care. Perspec Biol Med 1975;18:185.

21. Navarro V. The political economy of medical care: an explanation of the composition, nature and functions of present health sector of the United States. Int J Health Serv 1975;5:65.

22. Navarro V. Justice, social policy, and the public's health. Med Care 1977;15:363.

23. Fuchs V. Concepts of health—an economist's perspective. J Med Philos 1976;1:229.

24. Garfinkel I. Equal access, minimum provision, and efficiency in financing medical care. J Hum Resour 1972;7:242.

25. Fried C. Equality and rights in medical care. Hastings Cent Rep 1976;6:29.

26. Fein R. On achieving access and equity in health care. Milbank Memorial Fund Quarterly 1972;50:157.

27. Bryant JH. Principles of justice as a basis for conceptualizing a health care system. Int J Health Serv 1977;7:707.

28. Harris C. Justice and Value in Health Policy. Columbia: University of Missouri, 1980.

29. Verbrugge LM. Equity of Access to Health Care: A Research Review and Prospectus. Ann Arbor: Institute for Social Research, University of Michigan, 1980.

30. Aguirre MN, et al. Response: The Consumer Viewpoint: "What is Health Care and What do we Want?" DHEW Publication No. (HRA) 79-632. Washington, DC: U.S. Government Printing Office, 1980.

31. Mechanic D. Correlates of physician utilization: why do major multivariate studies of physician utilization find trivial psychosocial and organization effects? J Health Soc Behav 1979;20:387.

32. Jonsen AR, Butler LH. Public ethics and policy making. Hastings Cent Rep 1975;5:19.

33. Sloan FA. Toward measures of equity in the delivery of health care services. In: Nourishing the Humanistic in Medicine. Pittsburgh: University of Pittsburgh Press, 1979.

34. Andersen R, et al. Two Decades of Health Services: Social Survey Trends in Use and Expenditure. Cambridge, MA: Ballinger, 1976.

35. National Center for Health Statistics. Health: United States, 1980. DHHS Publication No. (PHS) 81-1232. Washington, DC: U.S. Government Printing Office, 1980.

36. Aday LA, et al. Overview of a design to evaluate the impact of community hospital-sponsored primary care group practices. Medical Group Management 1978;256:42.

37. Block JA, et al. Physicians and hospitals: providing primary care. Medical Group Management 1978;25:35.

38. Andersen R, Anderson OW. A Decade of Health Services: Social Survey Trends in Use and Expenditure. Chicago: The University of Chicago Press, 1967.

39. Andersen R, Anderson OW. Trends in the use of health services. In: Handbook of Medical Sociology. Englewood Cliffs: Prentice-Hall, 1979.

40. National Center for Health Statistics. Persons hospitalized by number of hospital episodes and days in a year: United States—July 1965-June 1966. Series 10, No. 50. Washington, D.C.: U.S. Government Printing Office, 1969.

41. Phelps CE. Effects of insurance on demand for medical care. In: Equity in Health Services: Empirical Analyses in Social Policy. Cambridge, MA: Ballinger, 1975.

42. Newacheck PW, et al. Income and illness. Med Care 1980;18:1165.

43. National Center for Health Statistics. Health characteristics of persons with chronic activity limitations: United States—1974. Series 10, No. 112. Washington, DC: U.S. Government Printing Office, 1976.

44. National Center for Health Statistics. Health: United States, 1979. DHEW Publication No. (PHS) 80-1232. Washington, DC: U.S. Government Printing Office, 1980.

45. Health Care Financing Administration. Data on the Medicaid Program: Eligibility, Services and Expenditures. Baltimore: Medicaid/Medicare Management Institute, Health Care Financing Administration, 1979.

46. Social Security Administration. Social Security Bulletin, Annual Statistical Supplement, 1975. Washington, DC: U.S. Government Printing Office, 1975.

47. Social Security Administration. Social Security Bulletin, Annual Statistical Supplement, 1977–79. Washington, DC: U.S. Government Printing Office, 1979.

48. U.S. Department of Commerce. Statistical Abstract of the United States, 1978. Washington, DC: U.S. Government Printing Office, 1978.

49. Waldo DR. Health Care Financing Trends 1980;2. Washington, D.C.: Office of Research, Demonstrations and Statistics, HCFA.

50. U.S. Department of Commerce. Population Profile of the United States, 1979. Current Population Reports. Series P-20, No. 350. Washington, DC: U.S. Government Printing Office, 1980.